

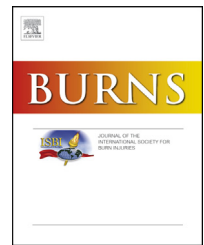


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Letter to the Editor

The impact of COVID-19 pandemic on the activity of a pediatric burn center in Bucharest, Romania

Dear Editor,

The on-going SARS-CoV-2 pandemic is challenging the medical community to cope with different clinical protocols and to adapt on the way to new public health regulations. These changes in the daily activity affect all medical fields, including burn care. We have followed with extreme interest the recently published researches and reviews [1–3] on COVID-19 in relation with burn care and burn center functioning. Since we are the only specialized Pediatric Plastic Reconstructive Surgery and Burns Department in Romania, our goal was to keep taking care of the burned children, under the best conditions, despite the pandemic. From this perspective we would like to share our experience of the past several months, and the conclusions we were able to draw so far.

Hospital adjustment to international and national evolution of the pandemic

The first case of COVID-19 was confirmed in our country on February 26, and the first death related to this new virus on March 22. During this time, hospitals started to prepare for the new condition; the staff was instructed regarding the rigorous and effective but sparing use of personal protective equipment (masks, gowns, goggles, gloves, face shields) and all unnecessary and non-urgent admissions and surgeries were postponed. All staff was also instructed once again regarding hand hygiene, and rigorous disinfection of all hospital surfaces and spaces (examination rooms, operating theatres, patient room etc.) was constantly performed.

Our hospital, “Grigore Alexandrescu” Emergency Hospital for Children in Bucharest, was declared as non-COVID 19 hospital since we do not have an infectious diseases department, and also because we attend a great number of children with other medical and surgical illnesses. The triage for patients and accompanying persons started at the beginning of March, and a special ward (in a separate building) for COVID-19 suspected patients was set in the hospital. All patients confirmed with SARS-COV-2 infection were subsequently to be transferred to one of the infectious diseases specialized hospitals.

Burn ward functioning, burns admissions and treatment during the State of Emergency

On March 16 a State of Emergency was instituted, which lasted for two months, which virtually meant a complete lockdown for all people not involved in vital activities. By Ministry of Health instructions, we reduced to one half the number of beds available for emergency burns and trauma patients, in order to ensure proper distancing. All patients and accompanying persons were instructed not to leave their rooms except for dressing changes and room cleaning; they stayed inside until discharge, as was also recommended by other burn centers [3]. No visitors were allowed. Following hospital regulations, every burn patient underwent RT-PCR testing for COVID-19, and they were considered potentially infected until the negative result came out. From admission until the RT-PCR result came out, they were set in a tampon area of the ward, separated from the other patients. During the studied period (March 16–May 15 2020), we did not register any COVID-19 positive case among the hospitalized children with burns. At the same time, we did not register any COVID-19 positive case among the staff members.

As expected, the consequence of the lockdown, with schools, parks and playgrounds closed and parents working from home was a dramatic dropdown in the total number of patients coming to the ER with trauma and burns. Between March 16 and May 15 we registered a total of 518 cases, while in the same time in 2019 we had more than double (1054 cases). The decrease was statistically significant ($p < 0.001$). When analyzing the admissions, we saw a decrease in admissions by 41% compared with the same period in 2019 (39 patients in 2020, 66 burn patients in 2019, $p < 0.001$). Although reports from other pediatric burn centers showed an increase of admitted cases [4], our findings are more in accordance with adult centers communications [5]. The most surprising finding was that the number of moderate and severe burns (10–80% TBSA) was essentially the same (19 in 2020, 20 in 2019). Therefore, the difference between the two years was given by the decrease in admissions of minor burns under 10% TBSA. Considering these data, we could comment that serious accidents keep happening at home, despite the presence of adults, and that causes might be related to parents' unawareness of potential indoor dangers that may lead to thermal or electrical

lesions (like fire bursting when lighting a match after alcoholic disinfectant use).

Having a consistent number of severe cases that undergo burn wound excision and skin grafting we continued performing surgical operations during the State of Emergency. The operations were scheduled and all necessary staff called in order to achieve the procedure within the shortest time possible. We did not have any problem of blood shortage for burn patients' transfusions during this period, as predicted elsewhere [6], probably because in the medium run, Romania was not as badly hit by the pandemic as some Western European countries (27,296 total confirmed cases of COVID-19 infection and 1,667 deaths to the date of this letter, July 1st 2020). In non-operating days, the surgeons shifted in order to ensure patient care and to reduce potential COVID-19 contamination.

Another important aspect of our activity is that we kept receiving patients from all over the country, despite the fact that general recommendations were not to move patients to distant places, for limiting the risk of infection spreading. As mentioned, we are the only burn center in Romania dedicated to children, and therefore we could not deny access to care to any of those needing our specialized service (extensive burns, very young patients etc.).

Globally, few cases of COVID-19 were reported in children, generally mild ones [7]. Considering this, and also recommendations made by other European fellows [8], we think that when dealing with burned children we should firstly focus on burn assessment and scoring, and on burn treatment strategy. The COVID-19 status of the patient should not influence on how fast we start general or surgical treatment for burns, for any delay may have devastating impact on the prognosis of the patient, especially in the severe cases. On the other hand, the national authorities should make awareness campaigns during lockdown, with regard to potential dangers at home, both for adults and children, in order to avoid preventable accidents.

Conflicts of interest

The authors declare no conflicts of interest.

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